IN THE CLAIMS

We Claim:

1. A method of inhibiting bacterial colonization of mucous epithelium in a biological system comprising;

administering to said biological system an effective amount of a mucolytic agent and a milk product selected from the group consisting of colostrum, hyperimmune milk, a component of colostrum and a component of hyperimmune milk capable of inhibiting bacterial colonization in combination with the mucolytic agent.

2. The method of claim 1, wherein said inhibition of bacterial colonization occurs in the gastrointestinal tract.

3. The method of claim 1, wherein said bacterial colonization is by a *Helicobacter* species.

4. The method of claim 3, wherein said *Helicobacter* species is *Helicobacter pylori.*

5. The method of claim 1, wherein said mucolytic agent is N-acetyl cysteine.

6. The method of claim 1, wherein said component of colostrum or hyperimmune milk is lactoferrin.

7. The method of claim 6, wherein said lactoferrin is hydrolyzed.

8. The method of claim 1, wherein said milk product originates from a bovine.

9. The method of claim 1, wherein a said milk product includes antibodies selected from the group consisting of specific antibodies and cross-reactive antibodies to the bacteria colonising the mucous epithelium.

10. The method of claim 1, wherein said method further includes administration of an antibiotic.

11. The method of claim 10, wherein said antibiotic is amoxicillin.

12. The method of claim 1, wherein said biological system is selected from the group consisting of human or animal.

13. A method for reducing bacterial infection of mucous epithelium in a biological system comprising;

administering to the biological system an effective amount of a mucolytic agent and a milk product selected from the group consisting of colostrum, hyperimmune milk, a component of colostrum and a component of hyperimmune milk capable of inhibiting bacterial colonization in combination with said mucolytic agent.

14. The method of claim 13, wherein said reduction of bacterial colonization occurs in the gastrointestinal tract.

15. The method of claim 13, wherein said bacterial colonization is by a *Helicobacter* species.

16. The method of claim 15, wherein said *Helicobacter* species is *Helicobacter pylori.*

17. The method of claim 13, wherein said mucolytic agent is N-acetyl cysteine.

18. The method of claim 13, wherein said component of colostrum or hyperimmune milk is lactoferrin.

19. The method of claim 18, wherein said lactoferrin is hydrolyzed.

20. The method of claim 13, wherein said milk product originates from a bovine.

21. The method of claim 13, wherein a said milk product includes an antibody selected from the group consisting of specific antibodies and cross-reactive antibodies to the bacteria colonising the mucous epithelium.

22. The method of claim 13, wherein said method further includes administration of an antibiotic.

23. The method of claim 22, wherein said antibiotic is amoxicillin.

24. The method of claim 1, wherein said biological system is selected from the group consisting of human or animal.

25. A method for reducing damage to mucous epithelium associated with bacterial infection of the mucous epithelium in a biological system comprising;

administering to said biological system an effective amount of a mucolytic agent and a milk product selected from the group consisting of colostrum, hyperimmune milk, a component of colostrum and a component of hyperimmune milk capable of reducing bacterial infection in combination with said mucolytic agent.

26. The method of claim 25, wherein said damage occurs in the gastrointestinal tract.

27. The method of claim 25, wherein said bacterial colonization is by a *Helicobacter* species.

28. The method of claim 27, wherein said *Helicobacter* species is *Helicobacter pylori.*

29. The method of claim 25, wherein said mucolytic agent is N-acetyl cysteine.

30. The method of claim 25, wherein said component of colostrum or hyperimmune milk is lactoferrin.

31. The method of claim 30, wherein said lactoferrin is hydrolyzed.

32. The method of claim 25, wherein said milk product originates from a bovine.

33. The method of claim 25, wherein a said milk product includes antibodies selected from the group consisting of specific antibodies and cross-reactive antibodies to the bacteria colonising the mucous epithelium.

34. The method of claim 25, wherein said method further includes administration of an antibiotic.

35. The method of claim 34, wherein said antibiotic is amoxicillin.

36. The method of claim 25, wherein said biological system is selected from the group consisting of human or animal.

37. A method for treating a disease or condition associated with bacterial infection of mucous epithelium in a subject comprising;

administering to said subject an effective amount of a mucolytic agent and a milk product selected from the group consisting of colostrum, hyperimmune milk, a component of colostrum and a component of hyperimmune milk capable of treating the disease or condition associated with bacterial infection of mucous epithelium in combination with the mucolytic agent.

38. The method of claim 37, wherein said disease or condition is associated with bacterial infection of the gastrointestinal tract.

39. The method of claim 37, wherein said disease or condition is selected from the group consisting of gastric inflammation, an ulcer of the stomach, an ulcer of the duodenum, non-ulcer dyspepsia, and a gastric condition associated with leukocyte infiltration.

40. The method of claim 37, wherein said bacterial colonization is by a *Helicobacter* species.

41. The method of claim 40, wherein said *Helicobacter* species is *Helicobacter pylori.*

42. The method of claim 37, wherein said mucolytic agent is N-acetyl cysteine.

43. The method of claim 37, wherein said component of colostrum or hyperimmune milk is lactoferrin.

44. The method of claim 43, wherein said lactoferrin is hydrolyzed.

45. The method of claim 37, wherein said milk product originates from a bovine.

46. The method of claim 37, wherein a said milk product includes an antibody selected from the group consisting of specific antibodies and cross-reactive antibodies to the bacteria infecting the mucous epithelium.

47. The method of claim 37, wherein said method further includes administration of an antibiotic.

48. The method of claim 47, wherein said antibiotic is amoxicillin.

49. The method of claim 37, wherein said biological system is selected from the group consisting of human or animal.

50. A composition comprising;

a mucolytic agent and a milk product selected from the group consisting of colostrum, hyperimmune milk, a component of colostrum and a component of hyperimmune milk

51. The composition of claim 50, wherein said mucolytic agent is N-acetyl cysteine.

52. The method of claim 50, wherein said milk product originates from a bovine.

53. The method of claim 50, wherein said component of colostrum or hyperimmune milk is lactoferrin.

54. The method of claim 53, wherein said lactoferrin is hydrolyzed.

55. The method of claim 50, wherein said milk product includes an antibody selected from the group consisting of specific antibodies and cross-reactive antibodies to the bacteria colonising the mucous epithelium.

56. The method of claim 50, wherein said method further includes administration of an antibiotic.

57. The method of claim 56, wherein said antibiotic is amoxicillin.

58. The method of claim 50, wherein said composition causes an action selected from the group consisting of inhibition of colonization of bacteria and inhibition of infection of mucous epithelium by bacteria.

59. The method of claim 50, wherein said bacteria is a *Helicobacter* specie.

60. The composition of claim 59, wherein said *Helicobacter* specie is *Helicobacter pylori.*